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WASHINGTON, DC 20001

EXAMINER

THANGAVELU, KANDASAMY

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/617,890

Applicant(s)

MARIA JANSEN, ROBERT  
THEODORUS LOUIS

Examiner

Kandasamy Thangavelu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-7 and 9-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,4-7 and 9-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This communication is in response to the Applicant's Response mailed on August 28, 2006. Claims 1 and 9 were amended. Claims 2, 3 and 8 were canceled. Claims 1, 4-7 and 9-20 of the application are pending. This office action is made final.

#### ***Abstract***

2. The abstract is objected to because of the following informalities:

In the amended abstract, Line 6, "representing the premisses " appears to be incorrect and it appears that it should be "representing the premises".

Appropriate correction is required.

#### ***Specification***

3. The disclosure is objected to because of the following informalities:

Page 2, Line 10, "premisses " appears to be incorrect and it appears that it should be "premises".

Page 7, Line 16, "A user can manage its appointments " appears to be incorrect and it appears that it should be "A user can manage his appointments".

Page 11, Line 13, "A user can manage its appointments " appears to be incorrect and it appears that it should be "A user can manage his appointments".

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Page 14, Line 31, "The user performs its tasks" appears to be incorrect and it appears that it should be "The user performs his tasks".

Page 27, Lines 2-3, "The authorized users can ... who is distinguished between" appears to be incorrect and it appears that it should be "The authorized users can ... who are distinguished between".

Appropriate corrections are required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10, 18 and 19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites, " System as claimed in claim 8". There is insufficient antecedent basis for "claim 8" because claim 8 has been canceled.

Claim 18 recites, " System as claimed in claim 2". There is insufficient antecedent basis for "claim 2" because claim 2 has been canceled.

Claim 19 recites, " System as claimed in claim 3". There is insufficient antecedent basis for "claim 3" because claim 3 has been canceled.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1, 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application 2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277) and **Zwern** (U.S. Patent Application 2001/0038378).

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8.1 **Hubrecht et al.** teaches systems and methods for generating virtual reality (VR) files for complex virtual environments. Specifically as per claim 1, **Hubrecht et al.** teaches a system for access, exchange, analysis and design of information relating to industrial plants having a substantial complexity (Fig. 26B; Page 1, Para 0002, L3-7; Para 0004, L5-13; Para 0007, L1-15; Para 0011, L2-8; Page 2, Para 0014, L2-10; Page 3, Para 0052, L6-10; Page 4, Para 0061, L3-9), the system comprising:

- a client-server software architecture (Fig. 2; Page 6, Para 0075 and Para 0076);
- at least a set of mutually connected computers containing the information, and adapted to function as a server computer (Fig. 2; Page 6, Para 0075 and Para 0076); and
- at least a web-based client computer functioning as a user station to enable the user to access the information (Fig. 2, Items 70A to 70N; Page 6, Para 0075 and Para 0076);

wherein the system deploys an interactive application adapted to create a virtual reality for the user on the client computer representing the premises of the industrial plant and that access to the information is obtained through objects in the virtual reality which bear a relation to the information (Abstract, L1-12; Page 1, Para 0002, L3-7; Para 0004, L5-13; Para 0007, L1-15; Page 4, Para 0052 and Para 0054; Page 4, Para 0061);

wherein the client-server software architecture provides a near real-time interaction of the user with the virtual reality (Page 3, Para 0052 and Para 0054; Page 6, Para 0075; Page 7, Para 0083).

**Hubrecht et al.** teaches that the application comprises a virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space

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(Page 1, Para 0007; Page 3, Para 0052 and Para 0054; Page 4, Para 0061). **Hubrecht et al.** does not expressly teach that the application comprises a photo-realistic virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space.

**Li et al.** teaches that the application comprises a photo-realistic virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space

(Page 1, Para 0005, L1-7; Page 1, Para 0009; Figs. 11(a) to 11(f); Figs. 12(a) to 12(c)). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.** with the system of **Li et al.** that included the application comprising a photo-realistic virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space, because traditional virtual reality techniques would be based on geometrical approaches where generated scenes might consist of millions of polygons; the approach would be labor intensive to construct a scene; image based modeling and rendering techniques would make it possible to simulate photo-realistic environments; the cost of rendering a scene would be independent of the scene complexity and truly compelling photo-realism could be achieved since the images could be directly taken from the real world (Page 1, Para 0004 and Para 0005).

**Hubrecht et al.** teaches that databases with the information are coupled to the objects allowing the user to identify, select, navigate and manipulate the objects of the model (Page 1, Para 0004, L5-13; Page 1, Para 0007; Page 3, Para 0052 and Para 0054; Page 6, Para 0075; Page 7, Para 0083, L1-18; Page 11, Para 0117, L18-21). **Hubrecht et al.** and **Li et al.** do not expressly teach that databases with the information are coupled to the objects using a direct manipulation interface allowing the user to identify, select, navigate and manipulate the objects of the model.

**Bowman-Amuah** teaches that databases with the information are coupled to the objects using a direct manipulation interface allowing the user to identify, select, navigate and manipulate the objects of the model (Page 29, Para 0814 to Para 0817). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.** and **Li et al.** with the system of **Bowman-Amuah** that included databases with the information being coupled to the objects using a direct manipulation interface allowing the user to identify, select, navigate and manipulate the objects of the model, because direct manipulation (drag and drop method) would allow users to manage multiple application objects by manipulating visual representation of the objects by dragging icons from one or more locations and dropping them at desired locations (Page 29, Para 0815).

**Hubrecht et al.**, **Li et al.** and **Bowman-Amuah** do not expressly teach that the virtual object is used as an intuitive access interface to the information concerning the object. **Zwern** teaches that the virtual object is used as an intuitive access interface to the information concerning the object (Abstract; Fig. 2; Fig. 3; Page 1, Para 0002). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.**, **Li et al.** and **Bowman-Amuah** with the system of **Zwern** that included the virtual object being used as an intuitive access interface to the information concerning the object, because that would enable instantaneous access to large amounts of visual data by providing the user with a large display projected in front of the user; the user would wear a head mounted display containing a head tracker, which would allow the user to position a view port provided by the head mounted display at any position within the large display by turning to



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look in the desired direction; this would provide intuitive access to enlarged computer output (Abstract).

Per claim 4: **Hubrecht et al.** teaches that the system is adapted to represent a user through the figure of a human being (Page 7, Para 0083, L6-18).

Per claim 5: **Hubrecht et al.** teaches that in the virtual reality representation information access points are represented and the information access points give access to information of the kind obtainable at the information access points in real life which are represented (Page 1, Para 0007, L1-13; Page 7, Para 0083, L6-18).

Per claim 6: **Hubrecht et al.** teaches system comprising more than one client computer, wherein the users of each client computer are represented by the figure of a human being and that the users communicate and exchange information by transfer of data (Fig. 2; Page 6, Para 0075 and Para 0076; Page 7, Para 0083, L6-18).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application 2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277), **Zwern** (U.S. Patent Application 2001/0038378) and **Glezerman** (U.S. Patent Application 2003/0207237).

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9.1 As per claim 7, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach the system as claimed in Claim 6. **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** do not expressly teach that the system comprises means to make appointments between users. **Glezerman** teaches that the system comprises means to make appointments between users (Page 3, Para 0025, L11-16). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** with the system of **Glezerman** that included the system comprising means to make appointments between users, because that would allow the trainer to schedule educational and training tasks and require that any scheduled tasks be performed in order and schedule delivery of messages that appear on the displays at the client machines between activities (Page 3, Para 0025, L11-16).

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application 2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277), **Zwern** (U.S. Patent Application 2001/0038378), **Glezerman** (U.S. Patent Application 2003/0207237), and **Jung** (U.S. Patent Application 2003/0208342).

10.1 As per claims 9 and 10, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Glezerman** teach the system of claim 7. **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Glezerman** do not expressly teach that the system is adapted to provide technical information relating to the object clicked upon; and the technical information comprises technical drawings.

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**Jung** teaches that the system is adapted to provide technical information relating to the object clicked upon (Abstract; Page 1, Para 0011, L2-4; Page 1, Para 0014); and the technical information comprises technical drawings (Abstract, L2-7; Page 1, Para 0001, L4-7). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Glezerman** with the system of **Jung** that included the system being adapted to provide technical information relating to the object clicked upon; and the technical information comprising technical drawings, because that would allow providing the building and construction information over the network, by extracting data from computerized drawings and generating information based on extracted data and reference data from a database (Page 1, Para 0001); and the time required for producing a construction specification for a structure starting from the drawings can be reduced substantially and optimization of the design can be greatly facilitated (Page 2, Para 0026, L2-7).

11. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application 2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277), **Zwern** (U.S. Patent Application 2001/0038378), and **Jayaram et al.** (U.S. Patent Application 2002/0123812).

11.1 As per claim 11, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach the system as claimed in Claim 1. **Hubrecht et al.** teaches that the virtual reality representation

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allows the user objects in the industrial plant to simulate maintenance and repair actions (Page 1, Para 0007, L1-13; Page 3, Para 0054, L4-10). **Hubrecht et al., Li et al., Bowman-Amuah and Zwern** do not expressly teach that the virtual reality representation allows the user objects in the industrial plant to take apart to pieces and to reassemble to simulate maintenance and repair actions. **Jayaram** teaches that the virtual reality representation allows the user objects in the industrial plant to take apart to pieces and to reassemble to simulate maintenance and repair actions (Page 1, Para 0002, L2-5; Page 1, Para 0009, L1-4 and L12-17; Page 2, Para 0010, L1-11; Page 4, Para 0079, L2-4). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al., Li et al., Bowman-Amuah and Zwern** with the system of **Jayaram** that included the virtual reality representation allowing the user objects in the industrial plant to take apart to pieces and to reassemble to simulate maintenance and repair actions, because that would allow employing a virtual reality environment with a computer aided design system to simulate virtual assembly of products (Page 1, Para 0002, L3-5); and an engineer could perform the assembly and disassembly intuitively in a virtual environment using VR hardware and software; the information generated in virtual assembly could be used for precise assembly planning and verification in real physical world for any product (Page 1, Para 0009, L12-17).

Per claim 12: **Hubrecht et al.** teaches that the system comprises reference data relating to the actions and that the system is adapted to compare the actions executed by the client with the reference data and to report about the rate of coherence between the executed actions and the

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actions of which the system contains reference data (Page 7, Para 0083, L1-18; Page 3, Para 0054, L4-10).

12. Claims 13, 14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application 2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277), **Zwern** (U.S. Patent Application 2001/0038378), and **Carlson et al.** (U.S. Patent Application 2003/0007000).

12.1 As per claim 13, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach the system as claimed in Claim 1. **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** do not expressly teach that the system is adapted to enable a user to design and draw conduits between the objects in the industrial site wherein the conduits are represented in the virtual reality representation of the industrial plant and that the conduits can be automatically and interactively positioned. **Carlson et al.** teaches that the system is adapted to enable a user to design and draw paths between the sites in a telecommunication network wherein the paths are represented in the virtual reality representation of the telecommunication network and that the routes can be automatically and interactively positioned (Fig. 9; Page 2, Para 0031; page 2, Para 0031, L5-8; Page 4, Para 0050, L2-16; Page 4, Para 0054, L2-7). It inherent that designing and drawing of paths between the sites in a telecommunication network wherein the paths are represented in the virtual reality representation of the telecommunication network and the routes are automatically and interactively positioned is analogous to designing and drawing conduits

between the objects in the industrial site wherein the conduits are represented in the virtual reality representation of the industrial plant and the conduits are automatically and interactively positioned. Therefore an analogous system can be used to design and draw conduits between the objects in the industrial site wherein the conduits are represented in the virtual reality representation of the industrial plant and that the conduits can be automatically and interactively positioned. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** with the system of **Carlson et al.** that included the system being adapted to enable a user to design and draw conduits between the objects in the industrial site wherein the conduits are represented in the virtual reality representation of the industrial plant and that the conduits can be automatically and interactively positioned, because that would allow a user to view the conduit network sites, routes and segments (Page 4, Para 0054, L5-7); and create one or more alternative transmission systems between any two end points (Page 5, Para 0062, L5-7).

Per claim 14: **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** do not expressly teach that the design module is adapted to give automatically determine a preferred routing of conduits without the need for human intervention d. **Carlson et al.** teaches that the design module is adapted to give automatically determine a preferred routing of conduits without the need for human intervention (Page 5, Para 0062).

12.2 As per claims 16 and 18-20, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach the system as claimed in Claims 1 and 2-4. **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**

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and **Zwern** do not expressly teach that the system is adapted to enable the user to design the locations of the objects of the industrial plant, their interrelations and locations of conduits connected to the objects, wherein during the design procedure the designed objects are represented in the virtual reality representation. **Carlson et al.** teaches that the system is adapted to enable the user to design the locations of the sites of a telecommunication network, their interrelations and locations of paths connected to the sites, wherein during the design procedure the designed sites are represented in the virtual reality representation (Fig. 9; Page 2, Para 0031; page 2, Para 0031, L5-8; Page 4, Para 0050, L2-16; Page 4, Para 0054, L2-7). It is inherent that designing the locations of the sites of a telecommunication network, their interrelations and locations of paths connected to the sites are analogous to designing the locations of the objects of the industrial plant, their interrelations and locations of conduits connected to the objects. Therefore an analogous system can be used to enable the user to design the locations of the objects of the industrial plant, their interrelations and locations of conduits connected to the objects, wherein during the design procedure the designed objects are represented in the virtual reality representation.

Per claim 17: **Hubrecht et al.** teaches that the technical information of the objects is retrieved through databases contained in a computer of the set of computers (Page 1, Para 0004, L5-13; Page 7, Para 0083, L1-18; Page 11, Para 0117, L18-20).

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hubrecht et al.** (U.S. Patent Application 2003/0117397) in view of **Li et al.** (U.S. Patent Application

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2002/0113791), and further in view of **Bowman-Amuah** (U.S. Patent Application 2003/0058277), **Zwern** (U.S. Patent Application 2001/0038378), **Carlson et al.** (U.S. Patent Application 2003/0007000), and **Goodman et al.** (U.S. Patent 7,020,697).

13.1 As per claim 15, **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Carlson et al.** teach the system of claim 13. **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Carlson et al.** do not expressly teach that the design module is adapted to automatically detect conflicts and to provide solutions therefore. **Goodman et al.** teaches that the design module is adapted to automatically detect conflicts and to provide solutions therefore (CL50, L1-5). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the system of **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah**, **Zwern** and **Carlson et al.** with the system of **Goodman et al.** that included the design module being adapted to automatically detect conflicts and to provide solutions therefore, because that would allow the conflicts to be resolved through some kind of dialog or discussion between the users (CL50, L1-5).

### ***Response to Arguments***

14. Applicant's arguments with respect to 35 USC 103 (a) rejections filed on August 28, 2006 have been considered. Applicant's arguments with respect to claim rejections under 35 USC 103 (a) are not persuasive.



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14.1 As per the Applicant's arguments that "Hubrecht does not disclose a system which is adapted to create a photo-realistic virtual environment in which a user is able to dynamically interact with objects in a 3D space; Hubrecht merely discloses a method for generating VR files from a 3D model of a complex environment; the representation of the model does not comprise an intuitive visual access interface to the information concerning the object; the features of the instant claims create a 5D environment with virtual 5D objects (3D space, real time, direct-manipulation interface to intelligent attributes in database) having the advantage that a user can act exactly in the same way as in the physical reality; such a system is simply not disclosed in Hubrecht", the Examiner takes the position that **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach all the features claimed in claim 1, so a user can act exactly in the same way as in the physical reality.

**Hubrecht et al.** teaches that the application comprises a virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space (Page 1, Para 0007; Page 3, Para 0052 and Para 0054; Page 4, Para 0061). **Hubrecht et al.** does not expressly teach that the application comprises a photo-realistic virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space. **Li et al.** teaches that the application comprises a photo-realistic virtual reality model, creating an environment in which the user is able to dynamically interact with the objects in a 3D space (Page 1, Para 0005, L1-7; Page 1, Para 0009; Figs. 11(a) to 11(f); Figs. 12(a) to 12(c)).

**Hubrecht et al.** teaches that databases with the information are coupled to the objects allowing the user to identify, select, navigate and manipulate the objects of the model (Page 1,

Para 0004, L5-13; Page 1, Para 0007; Page 3, Para 0052 and Para 0054; Page 6, Para 0075; Page 7, Para 0083, L1-18; Page 11, Para 0117, L18-21). **Hubrecht et al.** and **Li et al.** do not expressly teach that databases with the information are coupled to the objects using a direct manipulation interface allowing the user to identify, select, navigate and manipulate the objects of the model. **Bowman-Amuah** teaches that databases with the information are coupled to the objects using a direct manipulation interface allowing the user to identify, select, navigate and manipulate the objects of the model (Page 29, Para 0814 to Para 0817).

**Hubrecht et al.**, **Li et al.** and **Bowman-Amuah** do not expressly teach that the virtual object is used as an intuitive access interface to the information concerning the object. **Zwern** teaches that the virtual object is used as an intuitive access interface to the information concerning the object (Abstract; Fig. 2; Fig. 3; Page 1, Para 0002).

14.2 As per the Applicant's arguments that "Glezerman does not teach or suggest creating a 5D environment with virtual 5D objects as claimed; Jung discloses a method for converting 2D drawings that illustrate construction elements into construction information; there is no 5D environment in which information about objects in this environment can be accessed via an intuitive visual access interface; Jung does not remedy the defects of Hubrecht and Glezerman; in Jayaram's system it is not possible to get information about objects in a real-time environment which can be accessed via an intuitive visual access interface; Carlson does not teach or suggest creating a 5D environment with virtual 5D objects as claimed; Goodman does not teach or suggest creating a 5D environment with virtual 5D objects as claimed", the Examiner takes the position that **Hubrecht et al.**, **Li et al.**, **Bowman-Amuah** and **Zwern** teach all the features

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claimed in claim 1, so a user can act exactly in the same way as in the physical reality.

Applicant's attention is directed to paragraph 14.1 above.

***ACTION IS FINAL***

15. Applicant's amendments necessitated new grounds of rejections presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez, can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'K. Thangavelu', with a stylized flourish at the end.

K. Thangavelu  
Art Unit 2123  
October 13, 2006